CASE STUDY

LakeCounty
Division of Transportation

LCDOT WILSON & NIPPERSINK INTERSECTION WIDENING

SENSITIVE OUTFALLS & MANAGING EROSION

PRINCIPAL RESIDENT ENGINEER & PRESENTER – PAUL GUARDI, P.E. DECI

PROJECT MANAGER – MATT EMDE, P.E.

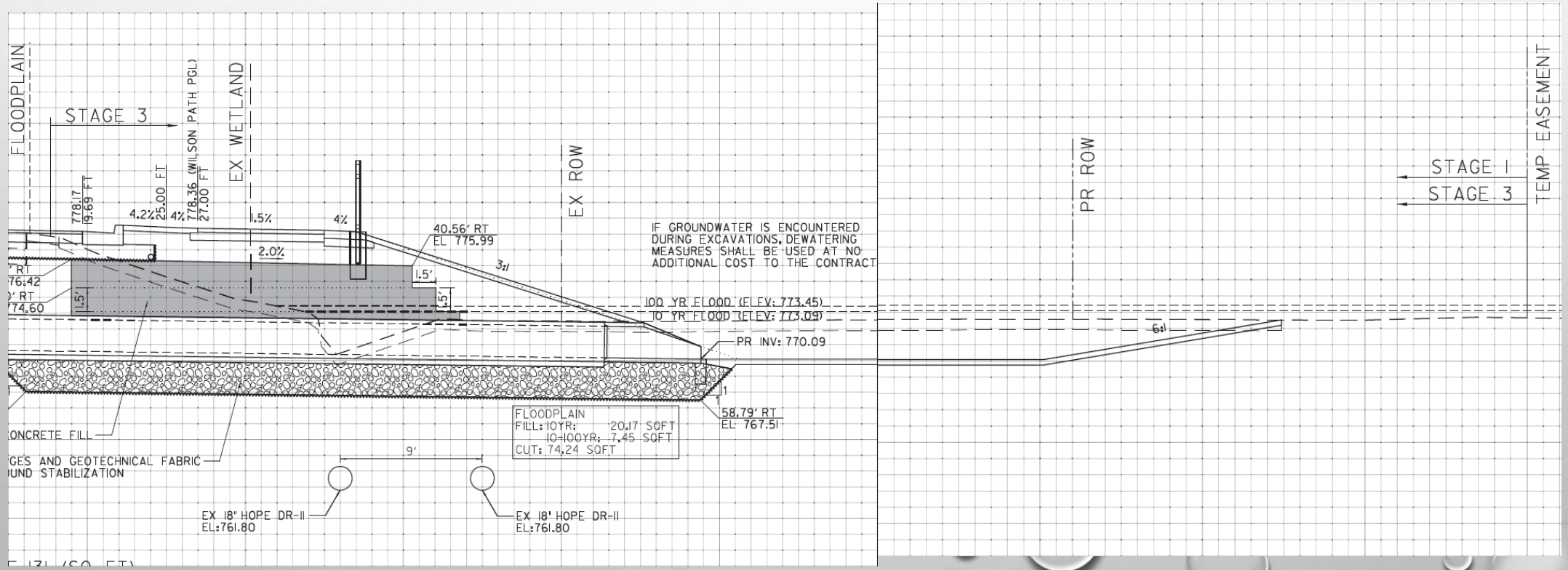
GENERAL CONTRACTOR – BERGER EXCAVATING

WILSON RD & NIPPERSINK RD INTERSECTION WIDENING (GRANT TOWNSHIP & ROUND LAKE)

- EXISTING CONDITIONS
  - 4-WAY STOP
  - ONE LANE IN EACH DIRECTION
  - DITCH DRAINED
  - WATER IN 3 OF 4 QUADRANTS
  - NEXT TO BIG HOLLOW SCHOOLS
  - NORTH OF BAXTER HEALTHCARE
- PROJECT PURPOSE
  - ADD LEFT TURN LANES
  - INSTALL TRAFFIC SIGNAL
  - WIDEN SHOULDERS
  - CONSTRUCT A SHARED-USE PATH
  - IMPROVE DRAINAGE
  - IMPROVE WATER QUALITY OF RUNOFF

MAIN OUTFLOW FROM SITE

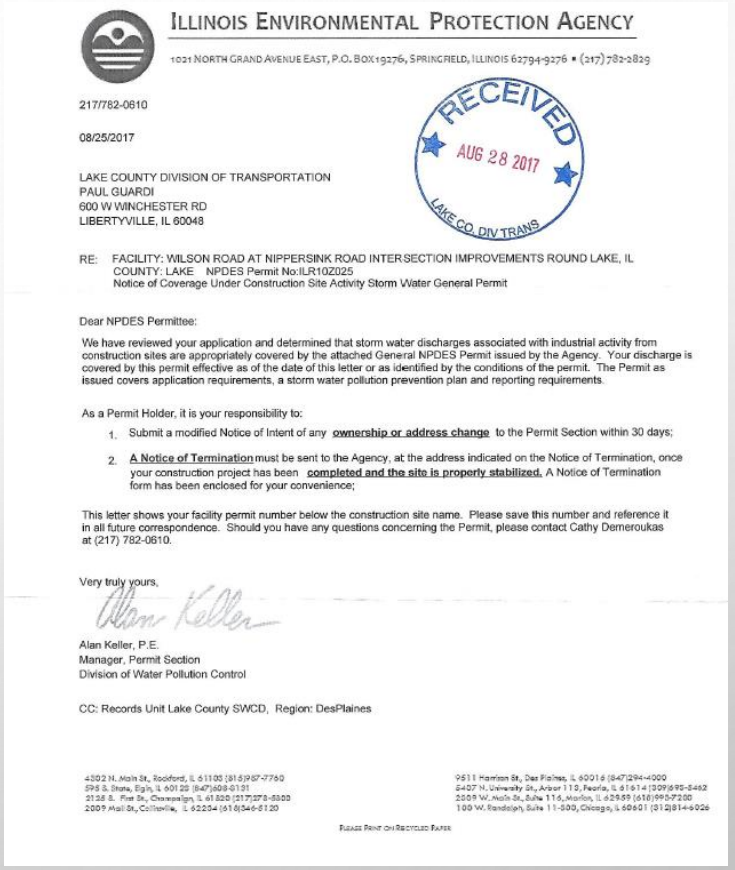
- THE SITE IS ESSENTIALLY A BOWL
  - ONLY WHEN THE BOWL IS FULL DOES WATER LEAVE THE SITE (OVERFLOW)
  - SITE HAS WATER ALMOST ALL YEAR ROUND
  - RARELY DID THE SITE GO DRY FROM EVAPORATION OR SOIL INFILTRATION




Nippersink Rd.
Wilson Rd.

PERMITTING & SITE INFO

- IEPA NPDES PERMIT: ILR10Z025
- ARMY CORPS PERMIT
- WETLAND IMPACT
- BUILD COMPENSATORY STORAGE
- TOTAL AREA DISTURBED: 11.35 ACRE
- **PROJECT START: 1/24/2018**
- **PROJECT END: 10/16/2019**



ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217) 782-2829

217/782-0610

08/25/2017

RECEIVED
AUG 28 2017
LAKE CO. DIV TRANS

LAKE COUNTY DIVISION OF TRANSPORTATION
PAUL GUARDI
600 W WINCHESTER RD
LIBERTYVILLE, IL 60048

RE: FACILITY: WILSON ROAD AT NIPPERSINK ROAD INTERSECTION IMPROVEMENTS ROUND LAKE, IL
COUNTY: LAKE NPDES Permit No:ILR10Z025
Notice of Coverage Under Construction Site Activity Storm Water General Permit

Dear NPDES Permittee:

We have reviewed your application and determined that storm water discharges associated with industrial activity from construction sites are appropriately covered by the attached General NPDES Permit issued by the Agency. Your discharge is covered by this permit effective as of the date of this letter or as identified by the conditions of the permit. The Permit as issued covers application requirements, a storm water pollution prevention plan and reporting requirements.

As a Permit Holder, it is your responsibility to:

1. Submit a modified Notice of Intent of any **ownership or address change** to the Permit Section within 30 days;
2. **A Notice of Termination** must be sent to the Agency, at the address indicated on the Notice of Termination, once your construction project has been **completed and the site is properly stabilized.** A Notice of Termination form has been enclosed for your convenience;

This letter shows your facility permit number below the construction site name. Please save this number and reference it in all future correspondence. Should you have any questions concerning the Permit, please contact Cathy Demeroukas at (217) 782-0610.

Very truly yours,

Alan Keller

Alan Keller, P.E.
Manager, Permit Section
Division of Water Pollution Control

CC: Records Unit Lake County SWCD, Region: DesPlaines

4302 N. Main St., Rockford, IL 61103 (815)987-7760
595 S. State, Elgin, IL 60123 (847)608-3131
2125 S. First St., Champaign, IL 61820 (217)278-5800
2009 Mall St., Collinsville, IL 62234 (618)346-5120

9511 Harrison St., Des Plaines, IL 60016 (847)294-4000
5407 N. University St., Arbor 113, Peoria, IL 61614 (309)693-5462
2309 W. Main St., Suite 116, Marion, IL 62959 (618)993-7200
100 W. Randolph, Suite 11-300, Chicago, IL 60601 (312)814-6026

PLEASE PRINT ON RECYCLED PAPER


STOP
STOP


A HIGHWAY
LakeCounty
Division of Transportation
GAVIN PTA & SOUTH
PEER LEADERS
NEXT 1¼ MILES
SPEED
LIMIT
45

COMPENSATORY STORAGE TREE REMOVAL – EROSION CONTROL

- AREA GETS EXCAVATED
- BECOMES COMPENSATORY AREA
- LARGE AREA WHERE TREES WERE REMOVED
- AREA DIRECTLY FLOWS TO WETLAND
- SILT FENCE PLANNED BUT GROUND FROZEN
- INSTALLED EXCELSIOR LOGS
  - POUND STAKES IN / SCRAPE EARTH
  - CAN SEE LOGS IN AERIAL PHOTO


K Rd

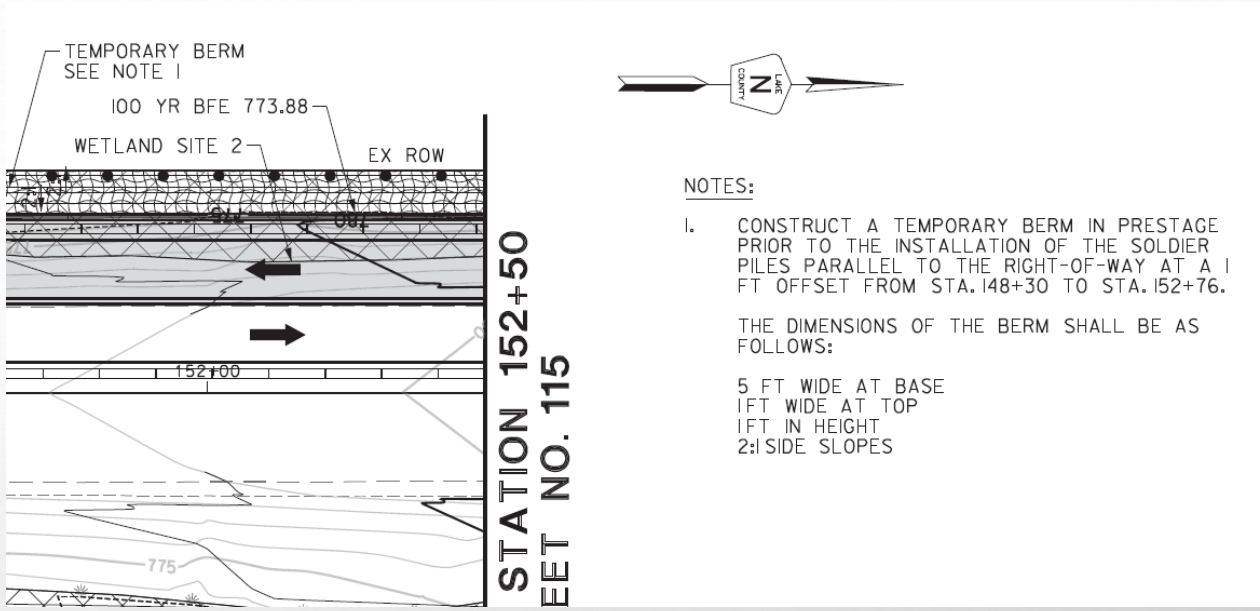

BERGER

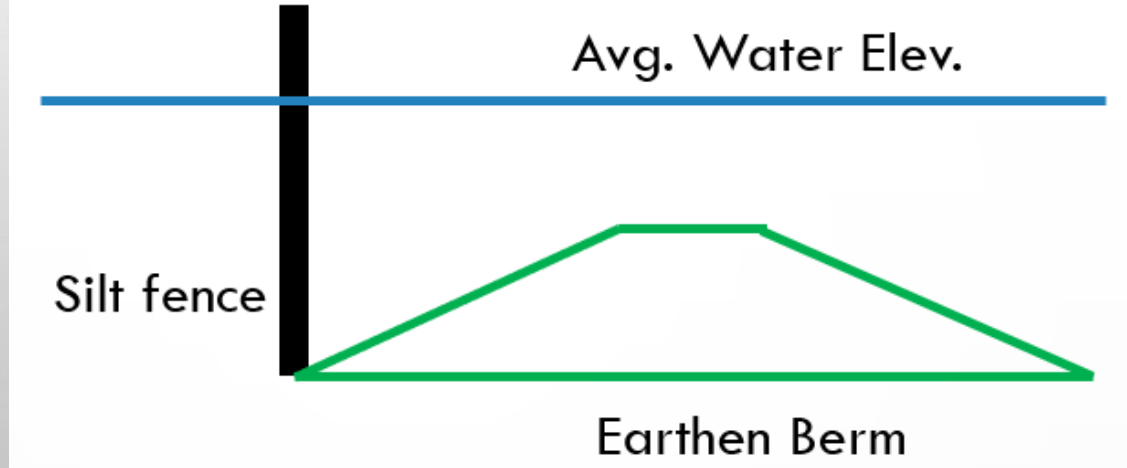
WIDENING WILSON SOUTHBOUND

- RIGHT-OF-WAY LINE IN WATER
- DUE TO RAINS, RARELY DRIED UP
- PLAN WAS TO PLACE SILT FENCE AND BUILT EARTHEN BERM
- COULD NOT INSTALL SILT FENCE IN 1’+ OF WATER
- NEEDED A DIFFERENT EROSION BARRIER TO PROTECT WETLANDS

SILT FENCE & EARTHEN BERM

- PLAN CALLED TO INSTALL SILT FENCE ALONG THE ROW
- PLAN CALLED FOR THE CONSTRUCTION OF AN EARTHEN BERM BEHIND THE SILT FENCE TO KEEP WATER OUT
- ISSUES
  - WATER ALWAYS SITTING IN SILT FENCE LOCATION
  - WATER IS PART OF WETLAND AREA
  - TRENCHING IN SILT FENCE WOULD HAVE CLOUDED WATER AND ALLOWED SEDIMENT TO LEAVE THE SITE
  - BERM LIKELY WOULD HAVE BEEN TOO SHORT





SIDE NOTE: COMED POLE RELOCATION


ROW
ROW

SANDBAG COFFERDAM

- AROUND 200 SANDBAGS USED
- PLACED ON & WRAPPED IN THICK PLASTIC TO MAKE THEM WATERTIGHT
- ALLOWED FOR MINIMAL DISTURBANCE IN THE WETLAND AREA
- EASILY REMOVED (AFTER 1.5 YEARS)
- PREFERRED OVER SILT FENCE/BERM & SILT CURTAIN OPTION
  - PROVIDES A STABLE WATERTIGHT BARRIER
  - PROVIDES AN ARMOR AND LITTLE NEED FOR REPAIRS
  - REPAIRS COULD LIKELY LEAD TO A LOSS OF SEDIMENT


AIRMAN
AIRMAN


BERGER


TALWORTH


STALWORTH


Link-Belt
STALWORTH


Superior Broom
SWB01


WACKER

PROTECTING WETLANDS FROM LIGHTWEIGHT CELLULAR CONCRETE FILL (LCCF)

- GROUT MIX WITH FOAM MIX USED TO STABILIZE POOR SOILS FOR VEHICLE LOADING
- VERY THIN MATERIAL THAT CAN TRAVEL THROUGH SMALL HOLES AND CRACK
  - USED PLASTIC, DUCT TAPE, BACKER ROD & GREAT STUFF TO SEAL
- CONTRACTOR PROVIDED A WATCH & PROTECT PERSON FOR LEAKS BEHIND THE WALL


cut 2"


BERGER

BIG HOLLOW SCHOOL RUNOFF

- LARGE WETLAND AREA
- WATER RELEASED SLOWLY VIA RESTRICTOR STRUCTURE
- PROVIDED A CONSTANT CONCENTRATED FLOW INTO THE SITE
- FLOW WOULD EXIT PIPE IN NW CORNER AND FREE FLOW AROUND TO THE NORTH
- NEW STORM SEWER INSTALLED HOLD FLOW AROUND CORNER AND THEN RELEASE IN TO STABILIZED DITCH
- WATER WAS REDIRECTED FOR A PERIOD OF TIME BECAUSE THE FLOW WAS TOO HEAVY

BYPASS INTO OTHER STORM SEWER SYSTEM (GOES TO THE SAME OUTFALL)


WORK ZONE
SPEED LIMIT
35
$375 FINE MINIMUM

FINAL PATH – POST DEWATERING


WORK ZONE
SPEED LIMIT
35

NIPPERSINK RD EAST OF WILSON – PRIVATE POND

- EXISTING NIPPERSINK CROSS CULVERT
  - OLD, FULL OF SEDIMENT & ALLOWED SLOW DRAINAGE TO THE NORTH
  - CAUSED A BUILD UP OF WATER ON THE SOUTH SIDE OF THE ROADWAY
  - LARGE TRIBUTARY AREA TO THE SOUTH
  - RECEIVES SOUTH SIDE DITCH WATER FROM TOP OF HILL
- SMALL EXISTING CULVERT FROM NORTH SIDE DITCH TO PRIVATE POND
  - RECEIVES WATER FROM CROSS CULVERT, SOUTH SIDE DITCH & NORTH SIDE DITCH

PREPPING FOR TEMPORARY PAVEMENT

- EXCAVATE EXISTING SHOULDERS
- LARGE BARE CLAY AREAS
- COMPACT AND GRADE BEFORE INSTALLING TEMPORARY AGGREGATE BASE
- SITE'S MOST VULNERABLE STAGE
- ALL BMP'S SPECIFIED IN PLACE

- 5/14/2018
- 3.14 INCHES OF PRECIPITATION
- ION SUBMITTED DUE TO EVIDENCE OF SEDIMENT LOSS
- COULD HAVE USED THAT DOUBLE STACKED SILT FENCE TIM COOK MENTIONED A FEW YEARS BACK


STOP

REMEDIATION OF THE PRIVATE POND

- CONTACTED RESIDENT & KEPT THEM INVOLVED THROUGH ENTIRE PROCESS
  - WEEKLY CONTACT (PHONE, EMAIL, IN-PERSON)
- OBTAINED A RIGHT-OF-ENTRY PERMIT
- PROPER DOCUMENTATION
  - DIARY, FIELD BOOK, SWPPP/DECI REPORT, IEPA ION & CONTACT LCSMC
- SITE WAS IN VULNERABLE SPOT, BUT NO EXCUSE FOR WHAT HAPPENED.
- DETERMINE ADDITIONAL BMP'S TO BE INSTALLED
- INSTALL A TREATMENT TRAIN & RUN UNTIL WATER IS CLEAR

TREATMENT TRAIN

- INTAKE WATER FROM POND (FLOATING HOSE ATTACHED TO PUMP)
- SILT BAG
- FLOC LOG & POWDER
- EROSION CONTROL MAT (JUTE YARN)
- SANDBAGS (CREATE TURBULENCE)
- BASIN FOR SETTLEMENT
- RETURN TO POND
- ***RUN UNTIL WATER IS CLEAR

PROGRESSING THROUGH THE PROJECT

- IN ORDER TO BUILD THE TEMPORARY ROADWAY A NEW CROSS CULVERT WAS TO BE INSTALLED
- NEW CROSS CULVERT MADE US PAY SPECIAL ATTENTION TO DRAINAGE AND EROSION CONTROL IN THIS AREA
- WATER IN THIS LOCATION COMES INTO THE CONSTRUCTION AREA AND EXITS RAPIDLY
- MAKES FOR DIFFICULTY CONTROLLING EROSION BECAUSE THERE IS LITTLE TIME TO FILTER THE WATER
- LARGE AMOUNTS OF WATER MAKES IT DIFFICULT TO HOLD ANY WATER BACK

PERFORATED RISER

STABILIZE AREA TRIBUTARY TO RISER

- CA-7 (WASH STONE) PILED AROUND RISER
- RIPRAP INSTALLED AROUND RISER
- TEMPORARY SEED & BLANKET INSTALLED IN TRIBUTARY DITCHES
- TEMPORARY AGGREGATE AND ASPHALT IN PLACE PROVIDING COVER
- DITCH CHECKS INSTALLED
- FLOC LOG INSTALLED IN RISER PIPE

AREA ADJACENT TO PRIVATE POND

- RIPRAP INSTALLED
- DITCH CHECKS INSTALLED TO SLOW WATER
- SILT FENCE INSTALLED BEHIND DITCH CHECKS TO ACT AS A SORT OF SILT CURTAIN
  - KEEP SOUTH WATER AND NORTH WATER SEPARATED
- TEMPORARY SEED & BLANKET INSTALLED
- FLOC LOGS INSTALLED AT FLARED-END-SECTION & AT ENTRANCE TO SMALL PIPE THAT LEADS TO POND

QUESTIONABLE WATER QUALITY

- SHORTLY AFTER STABILIZING AREA, DISCHARGES WERE NOT ALWAYS COMPLETELY CLEAR
- ON THE FENCE IF AN ION WAS NEEDED
- PRIVATE POND WAS CONSIDERED PART OF SITE DUE TO THE R.O.E. BUT STILL A SENSITIVE AREA WHERE SEDIMENT CANNOT ENTER
- CONTACTED LCSMC FOR GUIDANCE
  - SUGGESTED TURBIDITY METER USE TO MONITOR DISCHARGES
  - 10 IS VERY CLEAN AND SHOULD NOT WORRY
  - 50 BEGINS TO BECOME QUESTIONABLE
  - USE AS A TOOL TO HELP YOUR DECISION

SWPPP/DECI Report #	SWPPP/DECI Report Date	Precipitation Amount (Inches)
8	4/16/2018	0.80
11	5/3/2018	0.49 +
13	5/14/2018	3.14 **IEPA ION**
14	5/15/2018	0.61
16	5/22/2018	1.91
18	5/31/2018	0.50
20	6/11/2018	1.45
21	6/16/2018	0.98
22	6/19/2018	2.12
23	6/23/2018	2.69
24	6/27/2018	2.55
31	8/7/2018	0.60
32	8/8/2018	0.84
34	8/17/2018	0.51
35	8/22/2018	1.17

SWPPP/DECI Report #	SWPPP/DECI Report Date	Precipitation Amount (Inches)
36	8/27/2018	0.51
37	8/28/2019	1.28
38	8/29/2018	1.57
40	9/4/2018	5.51
43	9/20/2018	1.44
45	10/2/2018	1.55 **IEPA ION**
46	10/8/2018	2.12
50	10/31/2018	0.94
51	11/5/2018	0.66
52	11/6/2018	0.51
57	12/4/2018	1.59
62	1/2/2019	0.57
63	1/8/2019	0.75
71	2/25/2019	1.28
73	3/11/2019	0.54

SWPPP/DECI Report #	SWPPP/DECI Report Date	Precipitation Amount (Inches)
74	3/13/2019	0.50
80	4/12/2019	0.86
84	4/30/2019	0.67
85	5/1/2019	0.72
87	5/9/2019	1.98
89	5/22/2019	0.50 +
90	5/24/2019	0.50 +
91	5/28/2019	0.50 +
92	5/30/2019	0.50 +
93	6/5/2019	0.50 +
95	6/13/2019	0.55
97	6/25/2019	0.64
98	7/1/2019	0.55
101	7/19/2019	2.71
102	7/22/2019	0.70

SWPPP/DECI Report #	SWPPP/DECI Report Date	Precipitation Amount (Inches)
106	8/19/2019	1.63
109	9/10/2019	1.75
110	9/12/2019	3.90
111	9/13/2019	1.9
113	9/23/2019	1.67

RAINFALL EVENT SUMMARY

# OF EVENTS 1” – 2”	14
# OF EVENTS 2” – 3”	5
# OF EVENTS 3” – 4”	2
# OF EVENTS 4” – 5”	0
# OF EVENTS OVER 5”	1
TOTAL # OF EVENTS OVER 0.50”	50 +

TURBIDITY METER - SAMPLE RESULTS

- TEST ON 9/21/2018
  - 11.2 NTU, 10.6
- TEST ON 10/2/2018
  - 92.9 NTU IN RIPRAP BEFORE POND
  - 50.3 NTU & 82.8 NTU IN POND
  - ***IEPA ION SUBMITTED
  - TURBIDITY METER AIDED IN DECIDING WHETHER TO SUBMIT ONE
- TEST ON 10/31/2018
  - 32.6 NTU, 20.9 NTU, 7.55 NTU
- TEST ON 1/8/2019
  - 5.57 NTU, 5.64 NTU, 4.63 NTU

10/2/2019 DISCHARGE TO PRIVATE POND

SEEKING FURTHER GUIDANCE

- POND WATER QUALITY WAS NOT CORRELATED TO RAINFALL EVENTS
  - WATER WOULD APPEAR CLOUDY PRIOR TO OR LONG AFTER RAINFALL EVENTS
- LAKE COUNTY HEALTH DEPARTMENT CONTACTED GUIDANCE
  - POSSIBLE FISH IN WATER THAT FEED OR LIVE ON BOTTOM THAT AGITATE POND BED (NATURAL OCCURRENCE)
  - POND OWNER'S USE OF AERATORS MAY CAUSE CLOUDINESS
- CONTINUED TO INCREASE BMP USE

POST 10/2/2019 ION – BMP CHANGES

- SILT CURTAIN AND EXCELSIOR LOG AT DITCH-TO-POND PIPE OUTLET
- BRICK & MORTAR NORTH SIDE OF CULVERT TO HOLD WATER BACK
- INCREASE RIPRAP AREA ON SOUTHSIDE FOR MORE STABILIZATION
- CONTINUE TREATMENT TRAINS
  - MULTIPLE DIFFERENT TYPES
- BRICK AND MORTAR THE DITCH-TO-POND PIPE SHUT
  - HOLD ALL RUNOFF WATER IN DITCH
  - WAIT FOR SEDIMENT TO FALL OUT OF SUSPENSION
  - PUMP CLEAR WATER INTO POND AND PREPARE FOR NEXT RAINFALL EVENT


Made in America


WACKER


WACKER

WEIGHING THE OPTIONS FOR STABILIZATION

- SHARED-USE PATH GETTING PAVED
- SHARED-USE PATH PAVED AND READY FOR FINAL LANDSCAPING
- NEED TO AVOID ANY MORE ION'S
- DEPENDING ON WEATHER, GRASS MAY NOT GROW WELL IN AREAS TRIBUTARY TO POND
- WATER COMES ROARING DOWN FROM THE TOP OF THE HILL

CHOOSING SOD – INSTANT COVERAGE

FINAL PREPARATIONS & CLEANING

- AREA HAS BEEN STABILIZED
- LET WATER FLOW DIRECTLY INTO POND
- NEED TO CLEAN WHERE WATER RUNS
  - STORM SEWER
  - RIPRAP
  - CULVERT
- REMOVE TEMPORARY BMP'S


96
B BERGER
ICC 60122
96
BERGER

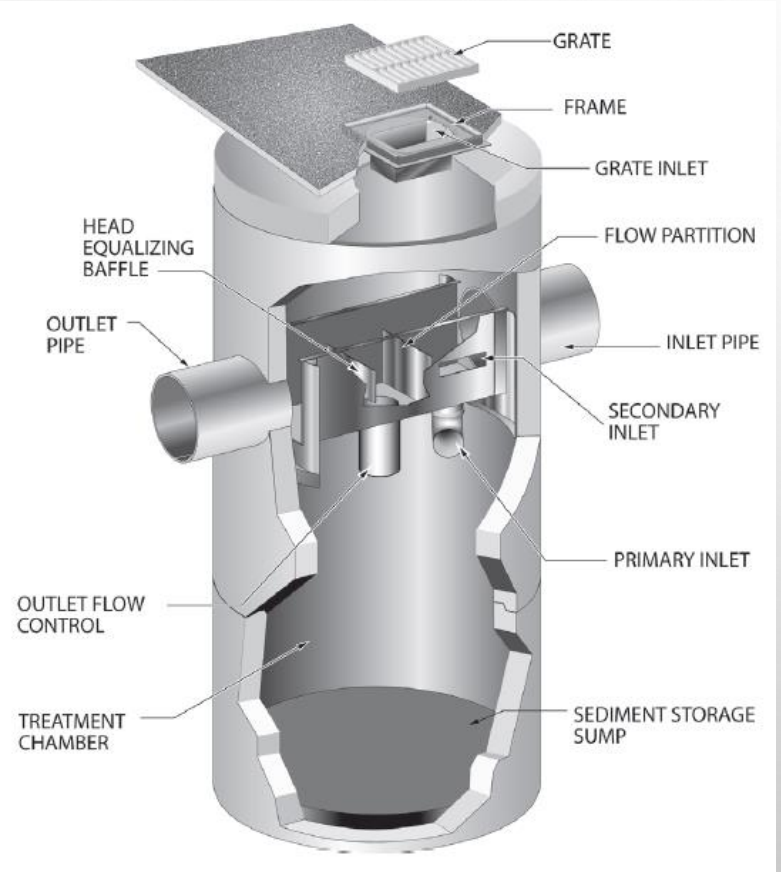
ASSURANCE THAT IT WORKED

- CHECKED DURING RAINFALL EVENT THAT DISCHARGE WAS CLEAR FROM SITE INTO PRIVATE POND
- PICTURE TAKEN ON 7/18/2019 DURING HEAVY RAINFALL EVENT
- REPORT ISSUED FOR EVENT SHOWED 2.71 INCHES OF PRECIPITATION

STORM SEWER SYSTEM WATER VOLUME & QUALITY

- ROADWAY WIDENED AND WATER RUNOFF NO LONGER SPLIT B/T DITCHES
  - ALL WATER PUT INTO SYSTEM AND CONCENTRATED
- RESTRICTOR STRUCTURE USED TO SLOW THE FLOW OF WATER
- WATER PROCESSED THROUGH CONTECH TREATMENT STRUCTURE
  - SEPARATES SOLIDS OUT
  - TWO TYPES OF TREATMENT DEPENDING ON VOLUME OF FLOW
- RESTRICTOR AND TREATMENT STRUCTURE MITIGATE THE CONCENTRATED STORM WATER

CONTECH VORTSENTRY®

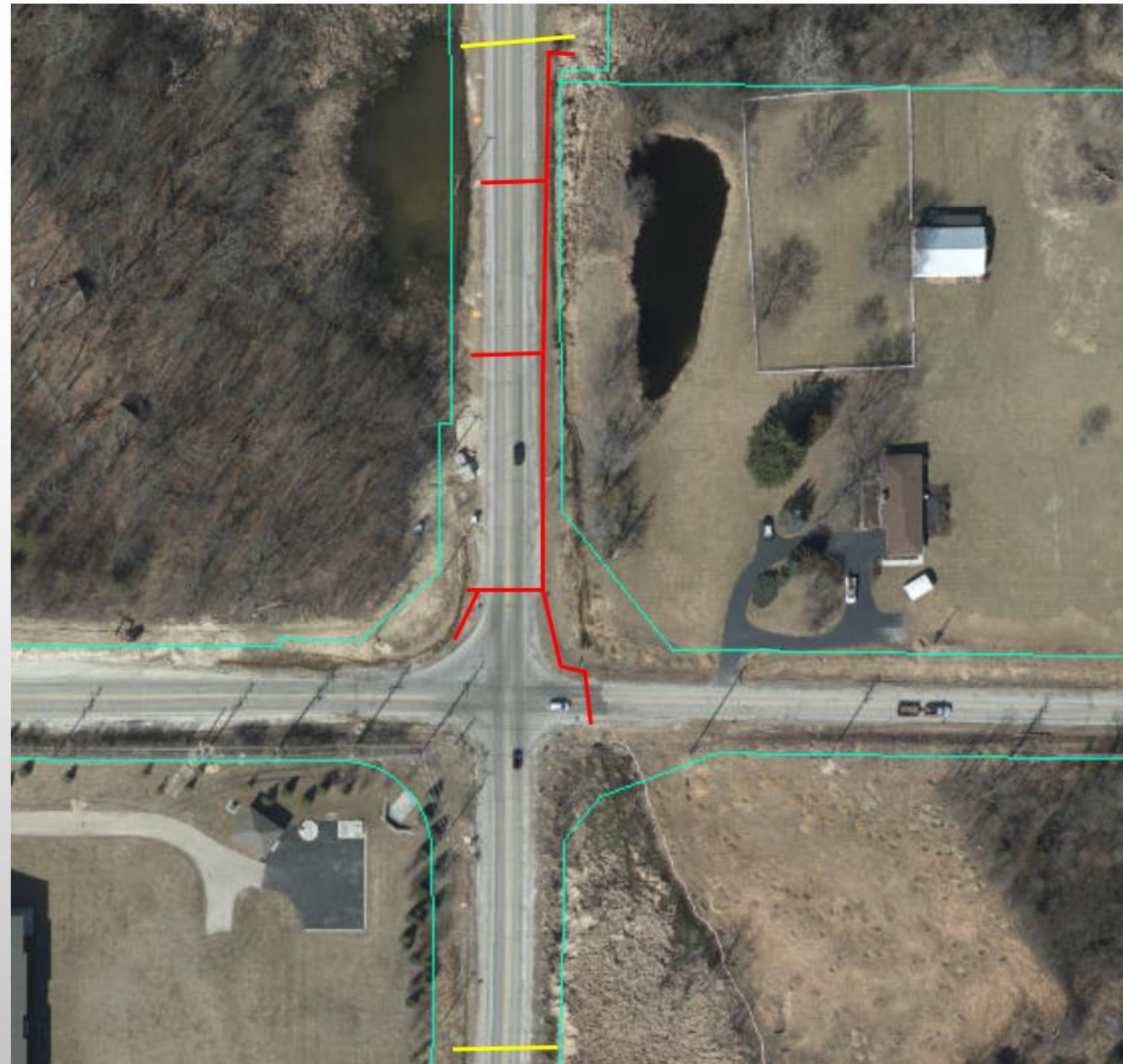


CONTECHES.COM


500
STALWORTH
WACKER

EAST SIDE WETLAND DRAINAGE DITCH CLOSURE

- SOUTHEAST CORNER WETLANDS DRAIN TO THE NORTH VIA CROSS CULVERT UNDER NIPPERSINK RD
- A LARGE OPEN DITCH ALLOWS WATER TO FLOW NORTH TO EVENTUAL OUTFALL TO THE EAST
- ROAD TO BE WIDENED AND SHARED-USE PATH TO BE INSTALLED WHERE DITCH IS
- PIPE THE DITCH SHUT IN ORDER TO BUILD ABOVE IT
- USE SILT FENCE & GEO FABRIC AT INFLOW TO KEEP WATER CLEAN
- TEMPORARY DITCH INSTALLED TO THE EAST FOR RUN-AROUND
  - LINED WITH GEO FABRIC
  - STONE DITCH CHECKS
  - FLOC LOGS
  - SILT FENCE ON BOTH SIDES




WORK ZONE
SPEED LIMIT 35
$375 FINE MINIMUM


STOP


BERGER

GENERAL PREPARATIONS FOR WINTER SHUTDOWN

- TEMPORARY DITCHES THROUGHOUT PROJECT ARE BARE CLAY WITH TEMP SEED
- PREPARE FOR SNOW MELT
- REGAIN/INCREASE CAPACITY IN TEMPORARY DITCHES
  - DUE TO ALL THE RAINFALL EVENTS SEDIMENT HAS BUILT UP IN DITCHES
  - RE-EXCAVATION NEEDED TO ALLOW PROPER DRAINAGE
  - TEMPORARY DITCH CHECKS WORKING BUT BEYOND CLEANING NEEDED
- INSTALLED TEMPORARY BLANKET IN ALL TEMPORARY DITCHES
- INSTALLED EROSION CONTROL MAT IN FLOW LINES
- PLACE FLOCCULATION POWDER ON EROSION CONTROL MATTING


STOP
ALL WAY

DEWATERING SETUPS

- THROUGHOUT THE PROJECT THERE WERE MANY VARIOUS DEWATERING SETUPS AT LOCATIONS
- IT WAS IMPORTANT THAT WE MAINTAINED NATURAL DRAINAGE PATTERNS WITH TEMPORARY EXTENSIONS OR BYPASSES
- AT TIMES THERE WERE OVER 10 PUMPS ONSITE RUNNING


Lawnmoor

LakeCounty
Division of Transportation

LCDOT'S POLICY FOR EROSION CONTROL

- COMMON ITEMS ARE PLACED INTO BID SET AND ASSIGNED UNIT PRICES
- UNLIKE IDOT, LAKE COUNTY DIVISION OF TRANSPORTATION PAYS SEPARATE FOR MAINTENANCE OF BMP'S (THE COST IS NOT INCLUDED IN THE BID PRICE)
- ITEMS USED TO PAY FOR THE REPAIR OR CLEANING IS CALLED "MAINTENANCE OF TEMPORARY EROSION CONTROL SYSTEMS"
  - UNIT OF MEASUREMENT: "UNIT"
  - 1 UNIT = 1 DOLLAR
  - ALL WORK IS TRACKED LIKE A FORCE ACCOUNT OR T&M ON AN IDOT BC635 FORM
  - CONTRACTOR SUBMITS A BILL AND THE MONEY IS PULLED FROM AN ALREADY ESTABLISHED QUANTITY

MAINTENANCE OF TEMPORARY EROSION CONTROL SYSTEMS

- QUANTITY OF UNITS IS DETERMINED BY PAY ITEM QUANTITIES
- THIS PROJECT ALLOWS FOR 31,276 UNIT OR $31,276
- THE APPROXIMATE QUANTITY USED IS 90,000 UNIT OR $90,000
  - SPEAKS TO THE MAGNITUDE OF WHAT IT TOOK TO KEEP THE SITE COMPLIANT
- THE SANDBAG COFFERDAM WAS NOT PAID FOR UNDER THIS ITEM

Basis of Payment: The quantity for this item is established by the Lake County Division of Transportation, based on the Engineer's Estimate and the following formula.

Contract Pay Item	Percent of Engineer's Estimate for Pay Item
Temporary Ditch Checks	*20%*
Perimeter Erosion Barrier	*100%*
Inlet Protection (Special)	*60%*
Inlet Filters	*60%*
Seeding *Sodding,* *Seeding (complete)* *Sodding (complete) **	*20%*

** if more than one of these items is included in the pay items then the sum is used. Temporary erosion control seeding is not included in the maintenance calculation.*

The quantity for MAINTENANCE OF TEMPORARY EROSION CONTROL SYSTEMS *for this contract is* **31,276.0 units**.

The unit price for MAINTENANCE OF TEMPORARY EROSION CONTROL SYSTEMS will be $1.00. Therefore one unit will equal $1.00 of force account work performed according to Article 109.04 (b) of the "Standard Specifications".

DOCUMENTATION & REPORTS

- RESIDENT ENGINEER GENERATED 113 DECI/SWPPP REPORTS
  - AVG. OF 5 REPORTS PER MONTH (DOES NOT ACCOUNT FOR WINTER)
  - SOME MONTHS HAD 8+ REPORTS DUE TO ISSUES OR RAINFALL EVENTS OVER ½”
- LCSMC INSPECTORS GENERATED 21 INSPECTION REPORTS
- LAKE COUNTY DOT SUBMITTED 2 ION (INCIDENCE OF NON-COMPLIANCE)
  - BOTH WERE A RESULT OF EXCESSIVE RAINFALL EVENTS
- RESIDENT ENGINEER USED 6 SWPPP WALL DIAGRAMS/LOGS TO TRACK EROSION WORK DONE ONSITE
  - ONE FOR EACH STAGE OR MAJOR SITE CHANGE

Illinois Department of Transportation

Storm Water Pollution Prevention Plan
Erosion Control Inspection Report

Date of Inspection: 7/19/2019
Name of Inspector: Paul Guardi
Type of Inspection: Weekly ☐
>0.5" Precip. ☒ Precip. Amt: 2.71 "
Contractor: Berger Excavating Contractors
Subs: Homer Tree,Peter Baker,Mark. Spec.,TCP,Staples, Alliance,Hometowne,Northern,Stalworth,Elastizell

County: LAKE
Section: 03-00070-06-CH
Route:
District: 1
Contract No:
Job No.
Project: Wilson Rd at Nippersink Rd Intersection

NPDES/ESC Deficiency Deduction: $1,000.00
NPDES Permit No: ILR10Z025
Total Disturbed Area: 11.35 acre
Ready for Final Cover: _____ acre
Final Cover Established: _____ acre

Erosion and Sediment Control Practices

Item # / BMP			YES	NO	N/A
1.	**Slopes:**	Do all slopes and exposed areas where soil disturbing activities have temporarily or permanently ceased, and not permanently stabilized, have adequate temporary seed or other stabilization in accordance with the NPDES permitted 7 and 14 day rule?	☒	☐	☐
2.	**Ditches**	Are all ditches (existing and temporary) clear of sediment and/or debris?	☒	☐	☐
		Do all ditches have adequate stabilization and structural practices in place?	☒	☐	☐
3.	**Perimeter Erosion Barrier:**	Are all perimeter erosion barriers in good working order?	☒	☐	☐
		Has perimeter barrier no longer needed been removed and the area stabilized?	☒	☐	☐
4.	**Temporary Ditch Checks:**	Are all temporary ditch checks in good working order?	☒	☐	☐
		Are the current ditch checks adequate to control erosion?	☒	☐	☐
5.	**Temp Diversions/ Slope Drains:**	Are all Temporary Diversions and Slope Drains functioning properly?	☐	☐	☒
6.	**Inlet Protection:**	Are ALL inlet protection devices in good working order?	☒	☐	☐
		Are ALL inlet filters less than 25% full and fabric unobstructed?	☒	☐	☐
7.	**Sediment Basins/Traps:**	Are ALL sediment basins/traps in good working order?	☐	☐	☒
		Does sufficient capacity exist for the design stormwater event?	☐	☐	☒
8.	**Areas of Interest – Wetland/Prairie/Tree Preservation:**	Has the contractor remained clear of all designated "no entry" areas?	☒	☐	☐
		Are all "no intrusion" areas adequately marked to prevent accidental entry?	☐	☐	☒
9.	**Stock Piles:**	Are all stockpiles properly situated and maintained to prevent runoff and protected to minimize discharge of materials or residue in case of erosion?	☒	☐	☐
10.	**Borrow/Waste Sites:**	Are all borrow and waste locations, including those located offsite, in compliance with NPDES requirements?	☐	☐	☒
11.	**Other Installations:**	Are all other BMP installations shown in the plans properly functioning? (note in comments)	☒	☐	☐

General Site Maintenance Required of the Permit

12.	**Vehicle Tracking:**	Is the site free from mud, sediment and debris from the vehicles entering/leaving off road areas throughout the site?	☒	☐	☐
		Are Stabilized Construction field entrances properly located?	☒	☐	☐
		Are Stabilized Construction field entrances in good working condition?	☒	☐	☐

Item # / BMP			YES	NO	N/A
13.	**Concrete Washout Areas:**	Are concrete washout areas adequately signed and maintained?	☒	☐	☐
		Has all washout occurred only at designated washout locations?	☒	☐	☐
14.	**Staging/Storage Areas:**	Are all staging/storage facilities free of litter, leaking containers, leaking equipment, spills, etc?	☒	☐	☐
15.	**Fuel/Chemical Storage:**	Are all fuels and chemicals stored only in designated locations?	☐	☐	☒
		Are all designated locations free of evidence of leaks and or spills?	☐	☐	☒
16.	**Previous Inspection Follow Up:**	Have all corrections from the last report been properly completed?	☒	☐	☐
		If not, has a NPDES/ESC Deficiency Deduction been assessed?	☐	☐	☒
17.	**Update SWPPP:**	Have all changes to the projects SWPPP been noted on the graphic site plan, signed and dated?	☒	☐	☐
18.	**Off-site Dischare of Sediment:**	Has sediment or other pollutants of concern been released from the project site?	☐	☒	☐
		If Yes, has the Illinois Environmental Protection Agency been notified within 24 hours of your observation of the discharge and an Incidence of Non-Compliance (ION) mailed within 5 days?	☐	☐	☒

Specific Instructions Related to "No" Answers From Above:

Item #	Station or Station to Station	Practice	Comments/Actions Required	Time for Repair
13	1- 152+50 RT 2- 23+00 RT	Concrete Washouts	Concrete washouts are very full and should be removed as they no longer have a use onsite.	End of Day Tuesday 7/23/19

Other Comments:

A heavy rainfall occurred on site. The site performed excellent and all discharge waters from the site were clear. The vegetation ponsite continues to come in nicely. The sod was watered early week and got the heavy rainfall late week.

Additional Pages (Attached As Needed)

☐ Outfalls / Receiving Waters
☐ Drainage Structure/Ditch Check Locations
☐ Additional Instructions to Contractor
Other: _____

If the answer to any of Items 1-16 above is "No", the contractor is hereby ordered to correct the deficiency. Repairs and stabilization are to be completed within 24 hours of this report (or as indicated above) or the DAILY NPDES/ESC Deficiency Deduction will be assessed for each noted deficiency until the required action is completed.

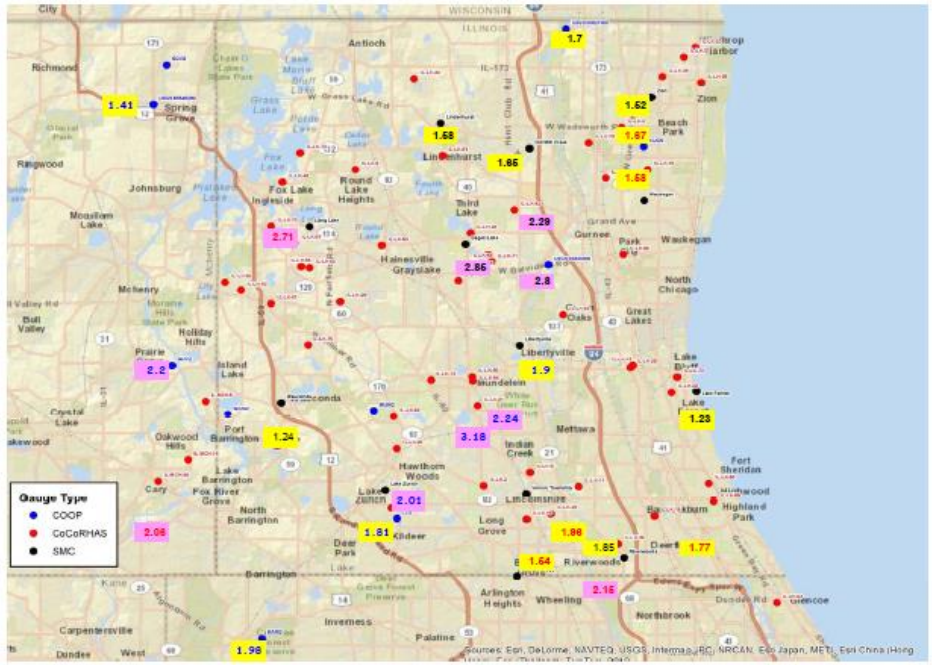
Inspector's Signature _____ Date/Time: _____

Contractor's Signature _____ Date/Time: _____

TOTAL STORM PRECIPITATION EQUIVALENT SUMMARY

Lake County only
Maximum 3.16
minimum 1.23
Average 1.96
STD 0.52

Starting Wednesday 7/17/2019 at 0700
Ending Friday 7/19/2019 at 0700
a 48 hour interval



27+55 LT During storm on 7/18/19, clear discharge water to pond

Backside of Northwall, water clear and grass growing

Water discharge clear at 151+30 RT (3 FES's)

151+00 RT looking south at grass growing on slop and plastic permeable berms in place

CONCLUSION

- FIND OUT WHAT RESOURCES ARE AVAILABLE TO USE AND TAKE ADVANTAGE OF THEM
  - TURBIDITY METER
  - IDOT EROSION CONTROL FLIP BOOK
  - YOUR DESIGNER
  - LCSMC
- LAKE COUNTY STORM WATER MANAGEMENT
  - HAVE THEM REVIEW DEWATERING PLANS
  - DON'T ASK THEM WHAT TO DO, BUT RATHER BOUNCE POTENTIAL SOLUTIONS/IDEAS OFF THEM
  - KEEP GOOD RECORDS AND DOCUMENT EVERYTHING
- COMMUNICATE WITH YOUR CONTRACTOR
  - TALKED WITH BERGER EVERYDAY ABOUT ITEMS THAT NEEDED ATTENTION
  - TALK WITH YOUR CONTRACTOR ABOUT POTENTIAL FUTURE MATERIAL NEEDS SO ITS ONSITE OR ORDERED
- BE ONSITE TO CATCH POTENTIAL PROBLEMS IN THE MAKING
  - TALK TO YOUR INSPECTOR WHEN THEY SHOW UP

QUESTIONS?

THANK YOU, LAKE COUNTY STORMWATER MANAGEMENT COMMISSION

CONTACT: **PAUL GUARDI, P.E. DECI**

PRINCIPAL RESIDENT ENGINEER

LAKE COUNTY DIVISION OF TRANSPORTATION

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LakeCounty
Division of Transportation